

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method, comprising:

determining at a processing element that an interface has become available to transmit packets based on an entry in a first portion of a calendar structure, wherein the first portion of the calendar structure is locally stored at the processing element and a second portion of the calendar structure is stored in memory external to the processing element, and further wherein the calendar structure comprises a series of entry rows each being associated with a time period, each entry row including a plurality of dedicated interface availability indicators, each interface availability indicator being associated with one of a plurality interfaces and indicating whether that associated interface will transition to then become available for packet transmission during the time period associated with that row entry; and

updating a location in a shaper vector to indicate that the interface is now available to transmit packets, wherein the shaper vector includes locations associated with [[a]] the plurality of interfaces.

2. (Original) The method of claim 1, wherein the shaper vector has a series of bits indicating which interfaces are currently available to transmit packets, and said updating comprises:

updating the appropriate bit in the shaper vector.

3. (Canceled)

4. (Currently Amended) The method of claim [[3]] 1, wherein said updating comprises:
combining the shaper vector and the appropriate entry in the first portion of the calendar structure using an OR operation and storing the result in the shaper vector.

5. (Original) The method of claim 1, further comprising:
pre-fetching a subset of the second portion of the calendar structure from the external memory and locally storing the subset at the processing element as the first portion.

6. (Original) The method of claim 5, wherein said pre-fetching comprises:
clearing the first portion of the calendar structure;
retrieving the subset of the second portion from the external memory; and
combining the retrieved information with the first portion using an OR operation and locally storing the result as the first portion of the calendar structure.

7. (Original) The method of claim 1, further comprising:
determining a packet to be transmitted via a first interface;
updating a location in the shaper vector to indicate that the first interface is not available;
calculating a time when the first interface will again be available; and
updating an entry in the calendar structure to indicate when the interface will again become available.

8. (Original) The method of claim 7, further comprising:

selecting the first interface based on information stored in the shaper vector.

9. (Original) The method of claim 7, wherein said calculating comprises dividing the length of the packet by a transmission rate associated with the first interface.

10. (Original) The method of claim 7, further comprising:

determining whether the entry in the calendar structure to be updated is stored in the first portion of the calendar structure.

11. (Original) The method of claim 7, wherein (i) the determination of the packet to be transmitted, the updating of the shaper vector to indicate that the first interface is not available, and the updating of the calendar structure are performed by a transmission block, and (ii) the determination that an interface has become available to transmit packets based on an entry in a first portion of a calendar structure and the updating of the shaper vector to indicate that the interface is now available are performed by a timer block.

12. (Currently Amended) An article, comprising:

a storage medium having stored thereon instructions that when executed by a machine result in the following:

determining at a processing element that an interface has become available to transmit packets based on an entry in a first portion of a calendar structure, wherein the first portion of the calendar structure is locally stored at the processing element and a second portion of the calendar

structure is stored in memory external to the processing element, and further wherein the calendar structure comprises a series of entry rows each being associated with a time period, each entry row including a plurality of dedicated interface availability indicators, each interface availability indicator being associated with one of a plurality interfaces and indicating whether that associated interface will transition to then become available for packet transmission during the time period associated with that row entry, and

updating a location in a shaper vector to indicate that the interface is now available to transmit packets, wherein the shaper vector includes locations associated with [[a]] the plurality of interfaces.

13. (Original) The article of claim 12, wherein the shaper vector has a series of bits indicating which interfaces are available to transmit packets, and said updating comprises:

updating the appropriate bit in the shaper vector.

14. (Canceled)

15. (Currently Amended) The article of claim [[14]] 12 , wherein said updating comprises:

combining the shaper vector and the appropriate entry in the first portion of the calendar structure using an OR operation and storing the result in the shaper vector.

16. (Original) The article of claim 12, wherein execution of the instructions further results in:

pre-fetching a subset of the second portion of the calendar structure from the external memory and locally storing the subset at the processing element as the first portion.

17. (Original) The article of claim 16, wherein said pre-fetching comprises:

clearing the first portion of the calendar structure,

retrieving the subset of the second portion from the external memory, and

combining the retrieved information with the first portion using an OR operation and storing the result in the first portion of the calendar structure.

18. (Original) The article of claim 12, wherein execution of the instructions further results in:

determining a packet to be transmitted via a first interface,

updating a location in the shaper vector to indicate that the first interface is not available,

calculating a time when the first interface will again be available, and

updating an entry in the calendar structure to indicate when the interface will again become available.

19. (Original) The article of claim 18, wherein execution of the instructions further results in:

selecting the first interface based on information stored in the shaper vector.

20. (Original) The article of claim 18, wherein said calculating comprises dividing the length of the packet by a transmission rate associated with the first interface.

21. (Original) The article of claim 18, wherein execution of the instructions further results in:

determining whether the entry in the calendar structure to be updated is stored in the first portion of the calendar structure.

22. (Currently Amended) An apparatus, comprising:

a processing element to locally store a first portion of a calendar structure; and

a memory external to the processing element to store a second portion of the calendar structure,

wherein the calendar structure ~~is associated with a plurality of interfaces and has a series of entries associated with time periods, each entry indicating which interfaces will become available to transmit packets during the associated time period~~ comprises a series of entry rows each being associated with a time period, each entry row including a plurality of dedicated interface availability indicators, each interface availability indicator being associated with one of a plurality interfaces and indicating whether that associated interface will transition to then become available for packet transmission during the time period associated with that row entry.

23. (Original) The apparatus of claim 22, wherein the processing element is further to locally store a shaper vector indicating which interfaces are currently available to transmit packets.

24. (Currently Amended) A system, comprising:

a network processor, including:

a processing element to locally store a first portion of a calendar structure, and

a memory external to the processing element to store a second portion of the calendar structure,

wherein the calendar structure ~~is associated with a plurality of interfaces and has a series of entries associated with time periods, each entry indicating which interfaces will become available to transmit packets during the associated time period~~ comprises a series of entry rows each being associated with a time period, each entry row including a plurality of dedicated interface availability indicators, each interface availability indicator being associated with one of a plurality interfaces and indicating whether that associated interface will transition to then become available for packet transmission during the time period associated with that row entry; and

an asynchronous transfer mode fabric interface device coupled to the network processor.

25. (Original) The system of claim 24, wherein the processing element is further to store a shaper vector indicating which interfaces are currently available to transmit packets. (Original)